

Abstract

532, 568

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



21 APR 2005



(43) International Publication Date  
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number  
**WO 2004/049906 A2**

- (51) International Patent Classification<sup>7</sup>: **A61B**
- (21) International Application Number:  
PCT/US2003/037864
- (22) International Filing Date:  
25 November 2003 (25.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/429,728 27 November 2002 (27.11.2002) US  
10/305,936 27 November 2002 (27.11.2002) US
- (71) Applicant (for all designated States except US): **U-SYSTEMS, INC.** [US/US]; 110 Rose Orchard Way, San Jose, CA 95134 (US).
- (71) Applicant and
- (72) Inventor: **SHIH-PING, Wang** [US/US]; 409 Becker Lane, Los Altos, CA 94022 (US).
- (74) Agents: **KAVRUKOV, Ivan, S. et al.**; Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY 10036 (US).

- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **VOLUMETRIC ULTRASOUND SCANNING OF SMALLER-SIZED BREAST**

(57) Abstract: An apparatus and related methods are described for obtaining volumetric ultrasound scans of a breast of a supine patient in which a fluid reservoir including a bottom flexible membrane contacts an upward-facing surface of the breast. The fluid reservoir is filled with water or other suitable acoustically conductive fluid until the bottom membrane covering the breast is submerged. A transducer surface of an ultrasound probe is submerged in the fluid and moved over and/or around the breast area to obtain the ultrasound scans. Patient comfort is promoted, the patient being able to relax in a supine position during the procedure with a substantially uncompressed breast. Imaging near the chest wall is enhanced, especially for patients having smaller-sized breasts. Also described are preferred embodiments using multiple transducer surfaces in which shadowing effects are reduced.

WO 2004/049906 A2